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OFFICE OF
WATER AND WATERSHEDS

Ms. Heather Bartlett, Manager
Water Quality Program
Washington State Department of Ecology
P.O. Box 47600
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MAY 14 2015

RE: U.S. Environmental Protection Agency (EPA) Comments on Washington's Draft 2014 Integrated Report

Dear Ms. Bartlett:

Thank you for the opportunity to review Washington Department of Ecology's (Ecology's) Draft 2010 Integrated Report (IR). We appreciate the cooperation and hard work of Ecology's staff during the development of the 2014 IR. Ecology held several helpful meetings with EPA to explain the new waterbody segmentation system and crosswalk, which facilitated EPA's review of the draft IR.

Enclose is the EPA's comments focused on the need for a regular review each listing cycle of waterbodies placed in Category 4b, the proper documentation for segments included in Category 4a as having an approved TMDL, the inclusion of a TMDL prioritization schedule with the final IR submittal, and Ecology's bioassessment methodology for the use of B-IBI scores in making listing decisions. We will continue to be in contact with Ecology as the 2014 IR is finalized.

The EPA hopes the following comments will be useful in developing the final 2014 IR. If you have any questions about our comments, please feel free to contact me at (206) 553-6694, or Jill Fullagar of my staff at (206) 553-2582.

Sincerely,

David Croxton

David Croxton
Manager, Watershed Unit

Enclosure

cc: Susan Braley, WDOE
Patrick Lizon, WDOE
Chad Brown, WDOE

TMDL Prioritization Schedule

The regulations at 40 CFR 130.7(b)(4) require States to prioritize waters on their Section 303(d) lists for total maximum daily load (TMDL) development, and also to identify those WQLS targeted for TMDL development in the next two years. In prioritizing and targeting waters, States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. As long as these factors are taken into account, the Act provides that States establish priorities. States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats, recreational, economic, and aesthetic importance of particular waters, degree of public interest and support, and State or national policies and priorities. This TMDL Prioritization Schedule must be included with Ecology's final IR submittal.

Category 4a

In the Ecology Water Quality Assessment database, there are 18 listings that are proposed as Category 4a that aren't linked to a TMDL: 14571 - Stillaguamish River, 22950 - Wapato Lake, 41848 - No Name Creek, 45209 - Riley Slough, 53116 - Wilson Creek, 70737-Chelan lake, 73029-Icicle Creek, 73030 Mission Creek, 73031-Icicle Creek, 73035-Wenatchee River, 73037 Chiwawa River, 73038-Wenatchee River, 73050-Nason Creek, 73053-Icicle Creek, 73055-Icicle Creek, 73073-Little Spokane River, 74043, Walla Walla River, 74286-Peshastin Irrigation Return. Please ensure that a specific "Water Quality Improvement Report" is identified for each waterbody that is placed in category 4a.

Category 4b

In our December 21, 2012 letter to you, in which we approved Ecology's 2010 303(d) list, EPA stated that in order to be included in Category 4b in future listings, Ecology needs to analyze recent data and information for each of the waterbodies, including sediment listings, included in Category 4b and provide that analysis with the Integrated Report, for each reporting cycle.

For the 1508 sediment listings that have been proposed for placement in Category 4b, EPA requests that Ecology review the status of the 4b plans to determine if their placement in Category 4b remains appropriate. For example, the CERCLA East Waterway Record of Decision (ROD) has not been completed; however, there are a number of waterbodies (e.g. Duwamish Waterway and Duwamish East Waterway) that have been placed into category 4b because of completion of a ROD in East Waterway. Also, if a "no action" alternative has been chosen in a ROD (Harbor Island West Waterway), category 4b may not be appropriate. Correct categorization of impairments can affect regulatory requirements for facilities that discharge to the waterway, and is therefore important. For example, Ecology's Industrial GP has different requirements for facilities that discharge to 4b waters compared to facilities that discharge to waters that are placed in category 5 (i.e. TSS benchmark vs TSS limit).

EPA evaluated the reviews that Ecology conducted of the proposed freshwater 4b listings. EPA requests that Ecology add additional information to these 4b summaries. For each summary, the "Schedule for Implementing Pollution Controls" section should include a detailed timeline with milestones for the implementation of pollution controls. The section "Monitoring Plan to Track Effectiveness of Pollution Controls" should include a detailed schedule of planned monitoring events.

Enclosure 1: EPA Comments on WDOE's Draft 2014 Integrated Report

NHD Crosswalk

Thank you for providing EPA with a preliminary draft crosswalk for the waterbody resegmentation to the NHD system. EPA reviewed the crosswalk and requests that for each listing that was deactivated and either split or rolled up into another listing, that this change be reflected in the remarks of the active listing. While this information has been captured for some of the changes, it is not consistently documented in all cases.

Bioassessment Methodology

EPA supports Ecology's use of macroinvertebrate assemblage data in 303(d) listing. The bioassessment listings in Ecology's draft 303(d) list are based on either the multivariate River Invertebrate Prediction and Classification System (RIVPACS) score or the multi-metric Benthic Index of Biotic Integrity (B-IBI) score. Both IBI and RIVPACS have undergone extensive scientific review, and this type of data is used across the world to assess aquatic resources (Rankin and Yoder, 1990; Davis and Simon, 1995.) A site's RIVPAC score and/or B-IBI score is calculated from the sample data collected for each site.

Ecology's Policy 1-11 (July 2012 version) provides a brief explanation of the assignment of thresholds for categories 1 through 5 in the Bioassessment portion of the chapter titled "Specific Submittal and Basis for Assessment Decisions." A waterbody segment will be placed in Category 1 (not impaired) when the RIVPACS score from the two most recent years of available macroinvertebrate assemblage data are equal to or greater than 0.86, or a B-IBI score indicates no biological impairments. A waterbody segment will be placed in Category 5 (impaired) when the RIVPACS score calculated from the two most recent years of available macroinvertebrate assemblage data results in a score less than 0.73, or a B-IBI score indicates a level of degradation such that the uses in the water body are impaired.

EPA does not recommend this approach for several reasons. First, a listing methodology premised on such a delta in the bioassessment scores will leave some sites in an indeterminate state – neither impaired nor unimpaired. This disparity could cause some confusion as it could appear that a waterbody could be considered to be not meeting designated uses, yet not be considered impaired. EPA recommends that Ecology bolster the rationale for establishing a range between the threshold for impairment and nonimpairment.

EPA recommends that Ecology use only one number to designate whether or not a waterbody is impaired (i.e. for placing waters in Category 5). This would be based on scores falling below the single numeric threshold for two of the past five years for which data has been collected. Ecology may be able to set a higher numeric goal for waterbodies as a result of the TMDL process based on more watershed specific information and analysis, if appropriate. Forty states use a single number for an index as a threshold for impairment, although some supplement it with either a score from another biological assemblage or an evaluation of habitat (e.g., Indiana). EPA believes variability of B-IBI scores is not an issue when two years of data over the last five years consistently shows a Category 5 condition.

One approach is to set impairment thresholds based on comparison to reference conditions. A common approach is to take the distribution of B-IBI scores at reference sites and set an impairment threshold at a certain percentage of those reference sites (typically 10%).

The Bioassessment section in Policy 1-11 provides the numeric thresholds for RIVPACS scores but only a narrative description of the B-IBI scores that are to serve as thresholds for determining whether or not a site is impaired (e.g., "poor conditions" or "very poor conditions"). However, in the Remarks section of an individual bioassessment listing, the threshold for Category 5 is mentioned as being $\leq$ 27 /RIVPACS score $\leq$ 0.73, while Category 1 is $\geq$ 38 /RIVPACS score $\geq$ 0.86. While Policy 1-11's Bioassessment section (pp. 31 -33) provides those RIVPAC scores as thresholds for Categories 1 and 5, no explanation is offered as to how the B-IBI scores were selected as thresholds for those categories. The method for establishing those ranges should be explained since the numeric thresholds determine to which category a site will be assigned.

Then a Biological Condition Gradient (BCG) model can be developed to confirm the empirically derived thresholds. The BCG is a conceptual, narrative model that describes how biological attributes of aquatic ecosystems change along a gradient of increasing anthropogenic stress. It provides a framework for understanding current conditions relative to natural, undisturbed conditions.

For the next biennial 303(d) List, EPA encourages Ecology to use the new Puget Lowlands B-IBI, which was developed under an EPA grant by King County, who worked with regional partners and experts to improve data analysis tools and standardize benthic macroinvertebrate monitoring in the Puget Sound region. This new index is a significant improvement from the older index used in this proposed listing, in that its taxa attribute lists (long-lived, predator, clinger) have been enhanced with new scientific information, and intolerant and tolerant taxa attributes have been updated with empirically-derived data from over 700 sites in the Puget Sound region. Its scoring methodology is also more refined and provides continuous scoring without gaps within each of the ten macroinvertebrate groups, so that a score is developed on a scale of 0 to 100, rather than current scale of 10 to 50.

EPA understands that the call for data used to create this proposed list occurred before the revisions to the Puget Lowlands B-IBI were complete, so a policy decision was made to use the old version. However, the Puget Sound Stream Benthos (PSSB) website allows the old data to be calculated on the new scale and vice versa, so a transition to the new system should not be an issue for the next list. They have also explored the effects of the scoring system limitations on the data interpretation and documented everything in a calibration document, found on their website: http://pugetsoundstreambenthos.org/Projects/EPA_Grant_2010/TechDocs/B-IBI_Recalibration.pdf. (see section 3.3): "Thus, comparisons through time should use a consistent version of B-IBI and the recommended approach is to calculate B-IBI 0-100 for earlier samples, which can easily be done in the PSSB." Therefore, EPA hopes Ecology will convert its existing data to the new index for its next list for an "apples to apples" comparison of the sampling results over a five-year period.